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AMENDMENTS TO THE CLAIMS

- 1           1.       (Currently Amended) A system for managing data transactions between a  
2 first bus and a second bus, comprising:  
3           a first transaction conversion module operably connected to said first bus, said  
4           first transaction conversion module being operable to receive transactions  
5           from said first bus in a first format and to convert said transactions into an  
6           internal format;  
7           a fully programmable ordering rules logic module operably connected to said first  
8           transaction module to receive said converted transactions in said internal  
9           format and to control issuing of said transactions in accordance with a  
10          dependency relationship between said individual converted transactions  
11          and further operable to issue validated transactions;  
12          a second transaction conversion module operably connected to said transaction  
13          ordering logic and to said second bus, said second transaction conversion  
14          module being operable to convert said validated transactions into a second  
15          format for said second bus.
- 1           2.       (Original)     The system of claim 1, wherein transactions on said first  
2 bus are managed using a first set of ordering rules and transactions on said second bus are  
3 managed using a second set of ordering rules.
- 1           3.       (Currently Amended) The system of claim 1, wherein said transactions  
2 comprise a time stamp and wherein said ordering rules logic module is operable to use  
3 said time stamp to issue said validated transactions.
- 1           4.       (Original)     The system of claim 3, wherein said rules logic module is  
2 operable to validate said transactions using a protocol based on an efficiency algorithm  
3 optimizing the availability of said second bus to accept a validated transaction.
- 1           5.       (Original)     The system of claim 4, wherein said ordering rules logic  
2 module is programmed by a configuration status register.

1           6.       (Original)     The system of claim 5, wherein said ordering rules are  
2     implemented by first and second arbiters.

1           7.       (Original)     The system of claim 6, wherein said first arbiter accepts a  
2     transaction to be issued from a plurality of validated transactions within a first virtual  
3     channel.

1           8.       (Original)     The system of claim 7, wherein said second arbiter chooses  
2     a validated transaction to be issued from a plurality of validated transactions among all of  
3     said virtual channels.

1           9.       (Original)     The system of claim 8, wherein data in said configuration  
2     status register is used to control said first arbiter to choose validated transactions.

1           10.      (Original)     The system of claim 9, wherein data in said configuration  
2     status register is used to control said second arbiter to choose validated transactions.

1           11       (Original)     The system of claim 10, wherein said first arbiter chooses  
2     validated transactions from within a plurality of validated transactions in a plurality of  
3     virtual channels.

1           12.      (Original)     The system of claim 11, wherein each of said plurality of  
2     transactions has an individual dependency set.

1           13.      (Original)     The system of claim 11, wherein at least one of said  
2     transactions does not have a dependency set and is validated.

1           14.   (Currently Amended) A method for managing data transactions between a  
2 first bus and a second bus, comprising:  
3           receiving a first transaction in a conversion module operably connected to said  
4 first bus, said first transaction conversion module being operable to  
5 receive transactions from said first bus in a first format and to convert said  
6 transactions into an internal format;  
7           receiving said converted transaction in a fully programmable ordering rules logic  
8 module operably connected to said first transaction module;  
9           using said ordering rules logic module to validate said converted transactions and  
10 to control issuing of said validated transactions to a second transaction  
11 module in accordance with a dependency relationship between a plurality  
12 of transactions; and  
13           using a second transaction conversion module to convert said validated  
14 transactions into a second format for said second bus.

1           15.   (Original)    The method of claim 14, wherein transactions on said first  
2 bus are managed using a first set of ordering rules and transactions on said second bus are  
3 managed using a second set of ordering rules.

1           16    (Currently Amended) The method of claim 15, wherein said transactions  
2 comprise a time stamp and wherein said ordering rules logic module is operable to use  
3 said time stamp to issue said validated transactions.

1           17.   (Original)    The method of claim 16, wherein said rules logic module is  
2 operable to validate said transactions using a protocol based on an efficiency algorithm  
3 optimizing the availability of said second bus to accept a validated transaction.

1           18.   (Original)    The method of claim 17, wherein said ordering rules logic  
2 module is programmed by a configuration status register.

1           19.   (Original)    The method of claim 18, wherein said ordering rules are  
2 implemented by first and second arbiters.

1           20.    (Original)    The method of claim 19, wherein said first arbiter accepts a  
2 transaction to be issued from a plurality of validated transactions within a first virtual  
3 channel.

1           21.    (Original)    The method of claim 20, wherein said second arbiter  
2 chooses a validated transaction to be issued from a plurality of validated transactions  
3 among all of said virtual channels.

1           22     (Original)    The method of claim 21, wherein data in said configuration  
2 status register is used to control said first arbiter to choose validated transactions.

1           23.    (Original)    The method of claim 22, wherein data in said configuration  
2 status register is used to control said second arbiter to choose validated transactions.

1           24.    (Original)    The method of claim 23, wherein said first arbiter chooses  
2 validated transactions from within a plurality of validated transactions in a plurality of  
3 virtual channels.

1           25.    (Original)    The method of claim 24, wherein each of said plurality of  
2 transactions has an individual dependency set.

1           26.    (Original)    The method of claim 25, wherein at least one of said  
2 transactions does not have a dependency set and is validated.